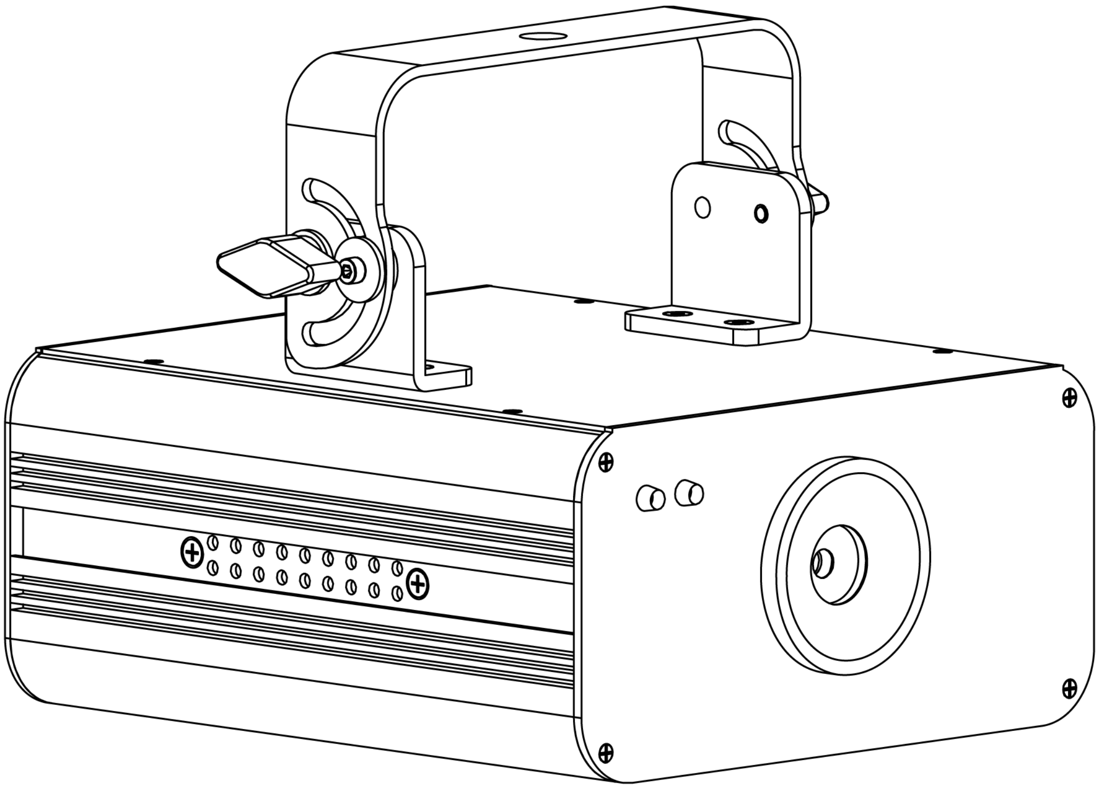
# SCORPION™ STORM FXGB

**LASER LIGHT**
**AVOID DIRECT EYE EXPOSURE**
**CLASS 3R LASER PRODUCT**
**CLASSIFIED PER EN/IEC 60825-1:2007**
**Complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.**



CHAUVET®
Value · Innovation · Performance

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# 1. BEFORE YOU BEGIN

## What Is Included

- 1 x Scorpion™ Storm FXGB
- 1 x Power Cord
- 1 x Warranty Card
- 1 x User Manual

## Unpacking Instructions

Immediately upon receipt, carefully unpack this product and check the container to make sure you have received all the parts indicated above in good condition.

## Claims

If the container or the material inside the container (this product and any other accessory included) appears damaged from shipping, or shows signs of mishandling, notify the carrier immediately, not CHAUVET®, upon receipt of the damaged merchandise. Failure to do so in a timely manner may invalidate your claim with the carrier. In addition, retain the container and all the packing material for inspection.

For other issues such as missing components or parts, damage not related to shipping, or concealed damage, file a claim with CHAUVET® within seven (7) days of receiving the merchandise.

## Manual Conventions

**CHAUVET® manuals use the following conventions to differentiate certain types of information from the regular text.**

| Convention | Meaning |
|---|---|
| **<Menu>** | A key to be pressed on the product's control panel |
| **1~512** | A range of values |
| 50/60 | A set of values of which only one can be chosen |
| **Settings** | A menu option not to be modified (for example, showing the operating mode/current status) |
| **MENU > Settings** | A sequence of menu options to be followed |
| **ON** | A value to be entered or selected |

## Icons

**This manual uses the following icons to indicate information that requires special attention on the part of the user.**

| Icons | MEANING |
|---|---|
|  | Critical installation, configuration or operation information. Failure to comply with this information may render the product partially or completely inoperative, cause damage to the product or cause harm to the user. |
|  | Important installation or configuration information. Failure to comply with this information may prevent the product from functioning correctly. |
|  | Useful information. |

## Safety Notes

**Please read the following notes carefully because they include important safety information about the installation, usage, and maintenance of this product.**

- Keep this User Manual for future consultation. If you sell this product to another user, be sure that they also receive this document.
- Always make sure that the voltage of the outlet to which you are connecting this product is within the range stated on the decal or rear panel of the product.
- This product is for indoor use only! To prevent risk of fire or shock, do not expose this product to rain or moisture.
- Make sure there are no flammable materials close to the unit while operating.
- Always install this product in a location with adequate ventilation, at least 20 in (50 cm) from adjacent surfaces. Be sure that no ventilation slots are blocked.
- Always disconnect this product from the power source before cleaning it or replacing fuse.
- Make sure to replace the fuse with another of the same type and rating.
- If mounting it overhead, always secure this product to a fastening device using a safety chain.
- The maximum ambient temperature (Ta) is 104° F (40° C). Do not operate this product at higher temperatures.
- In the event of a serious operating problem, stop using the unit immediately. Never try to repair the unit. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center.
- Never connect this product to a dimmer pack.
- Make sure the power cord is not crimped or damaged.
- Never disconnect the power cord by pulling or tugging on the cord.
- Never carry a product from the power cord or any moving part. Always use the hanging/mounting bracket or the handles.
- Always avoid direct eye exposure to the light source when this product is on.
- Lasers can be hazardous and have unique safety considerations. Permanent eye injury and blindness is possible if lasers are used incorrectly. Pay close attention to each safety REMARK and WARNING statement in this user manual. Read all instructions carefully BEFORE operating this device.

- **Avoid direct eye contact with laser light. Never intentionally expose your eyes or others to direct laser light.**
- **This laser product can potentially cause instant eye injury or blindness if laser light directly strikes the eyes.**
- **It is illegal and dangerous to shine this laser into audience areas, where the audience or other personnel could get direct laser beams or bright reflections into their eyes.**
- **It is a US Federal offense to shine any laser at aircraft.**
- **Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.**
- **There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact the dealer nearest to you.**
- **Avoid direct eye contact with laser light. Never intentionally expose your eyes or others to direct laser light.**

## Non Interlocked Housing Warning

- This unit contains high power laser devices internally.
- Do not open the laser housing, due to potential exposure to unsafe levels of laser radiation.
- The laser power levels, accessible if the unit is opened, can cause instant blindness, skin burns, and fires.

# Laser Safety Notes

**STOP AND READ ALL THE LASER SAFETY NOTES BELOW**

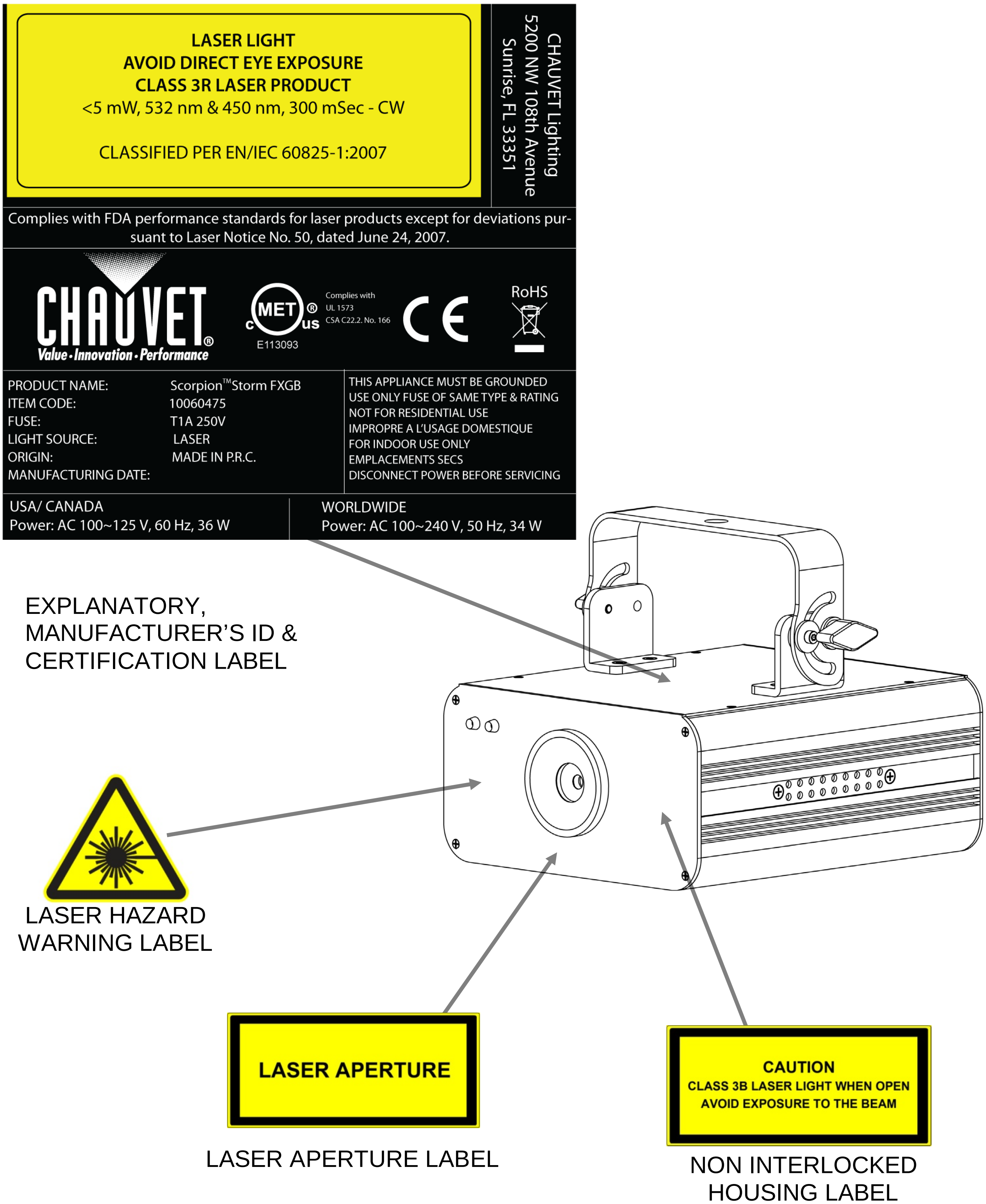
Laser Light is different from any other light sources with which you may be familiar. The light from this product can potentially cause eye injury if not set up and used properly. Laser light is thousands of times more concentrated than light from any other kind of light source. This concentration of light can cause instant eye injuries, primarily by burning the retina (the light sensitive portion at the back of the eye). Even if you cannot feel "heat" from a laser beam, it can still potentially injure or blind you or your audience. Even very small amounts of laser light are potentially hazardous even at long distances. Laser eye injuries can happen quicker than you can blink.

It is incorrect to think that because these laser entertainment products split the laser into hundreds of beams that the laser beam is scanned out in high speed, that an individual laser beam is safe for eye exposure. This laser product uses dozens of milliwatts of laser power (Class 3B levels internally) before it splits into multiple beams (Class 3R levels). Many of the individual beams are potentially hazardous to the eyes.

It is also incorrect to assume that because the laser light is moving, it is safe. This is not true. Nor, do the laser beams always move. Since eye injuries can occur instantly, it is critical to prevent the possibility of any direct eye exposure. In the laser safety regulation, it is not legal to aim Class 3R lasers in areas which people can get exposed. This is true even if it is aimed below people's faces, such as on a dance floor.

- Do not operate the laser without first reading and understanding all safety and technical data in this manual.
- Always set up and install all laser effects so that all laser light is at least 3 meters (9.8 feet) above the floor on which people can stand. See "Proper Usage" section later in this manual.
- After set up, and prior to public use, test laser to ensure proper function. Do not use if any defect is detected. Do not use if laser emits only one or two laser beams rather than dozens/hundreds, as this could indicate damage to the diffraction grating optic, and could allow emission of higher laser levels above Class 3R.
- Do not point lasers at people or animals.
- Never look into the laser aperture or laser beams.
- Do not point lasers in areas in which people can potentially get exposed, such as uncontrolled balconies, etc.
- Do not point lasers at highly reflective surfaces, such as windows, mirrors and shiny metal. Even laser reflections can be hazardous.
- Never point a laser at aircraft, this is a federal offense.
- Never point un-terminated laser beams into the sky.
- Do not expose the output optic (aperture) to cleaning chemicals.
- Do not use laser if the laser appears to be emitting only one or two beams.
- Do not use the laser if the housing is damaged, open, or if the optics appear damaged in any way.
- Never open the laser housing. The high laser power levels inside of the protective housing can start fires, burn skin and will cause instant eye injury.
- Never leave this device running unattended.
- The operation of a class 3R laser show is only allowed if the show is controlled by a skilled and well-trained operator, familiar with the data included in this manual.
- The legal requirements for using laser entertainment products vary from country to country. The user is responsible for the legal requirements at the location/country of use.
- Always use appropriate lighting safety cables when hanging lights and effects overhead.

# Laser Safety Label Reproduction



**LASER EXPOSURE**

**Laser light - Avoid direct eye contact!**

Further guidelines and safety programs for safe use of lasers can be found in the ANSI Z136.1 Standard “For Safe Use of Lasers”, available from the Laser Institute of America: www.laserinstitute.org. Many local governments, corporations, agencies, military and others, require all lasers to be used under the guidelines of ANSI Z136.1. Laser Display guidance can be obtained via the International Laser Display Association: www.laserist.org.

# Laser Emission Data

| LASER CLASSIFICATION | CLASS 3R |
|---|---|
| Green Laser Medium | DPSS Nd:YVO4, 532 nm |
| Blue Laser Medium | LD GaAlAs 450 nm, typical |
| Beam Diameter | <5mm at aperture |
| Pulse Data | All pulses < 4 Hz (>0.25 sec) |
| Divergence (each beam) | <2 mrad |
| Divergence (total light) | <160 degrees |
| Laser Power of Each Beam from Aperture* | <5 mW |

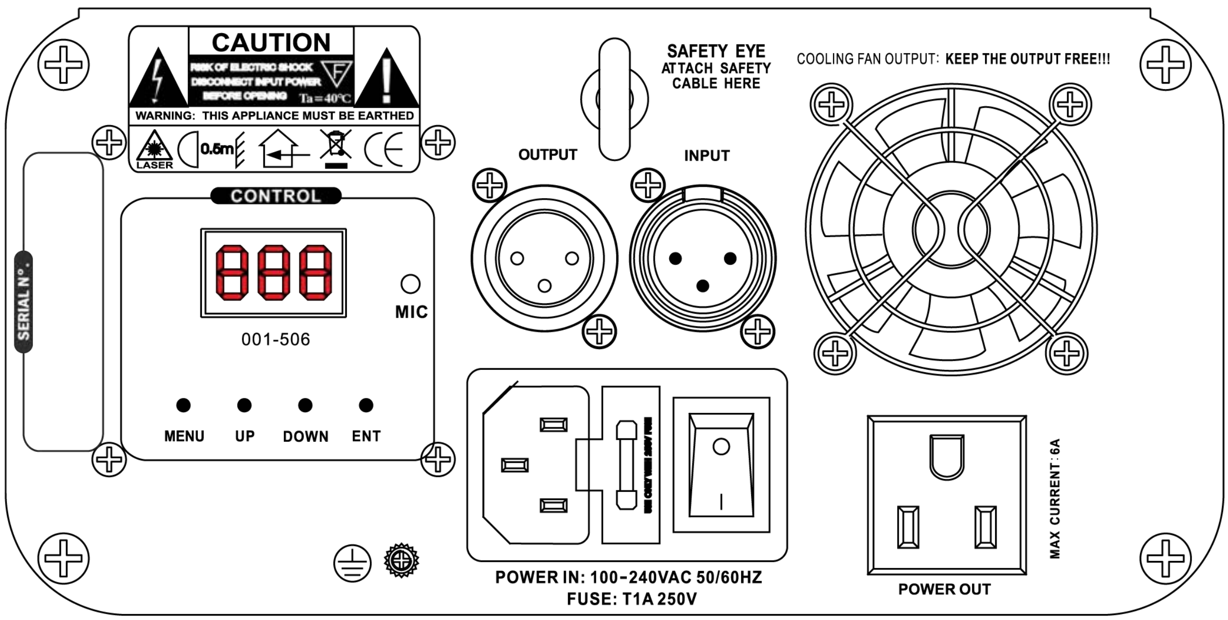
* As measured under IEC measurement conditions for classification.

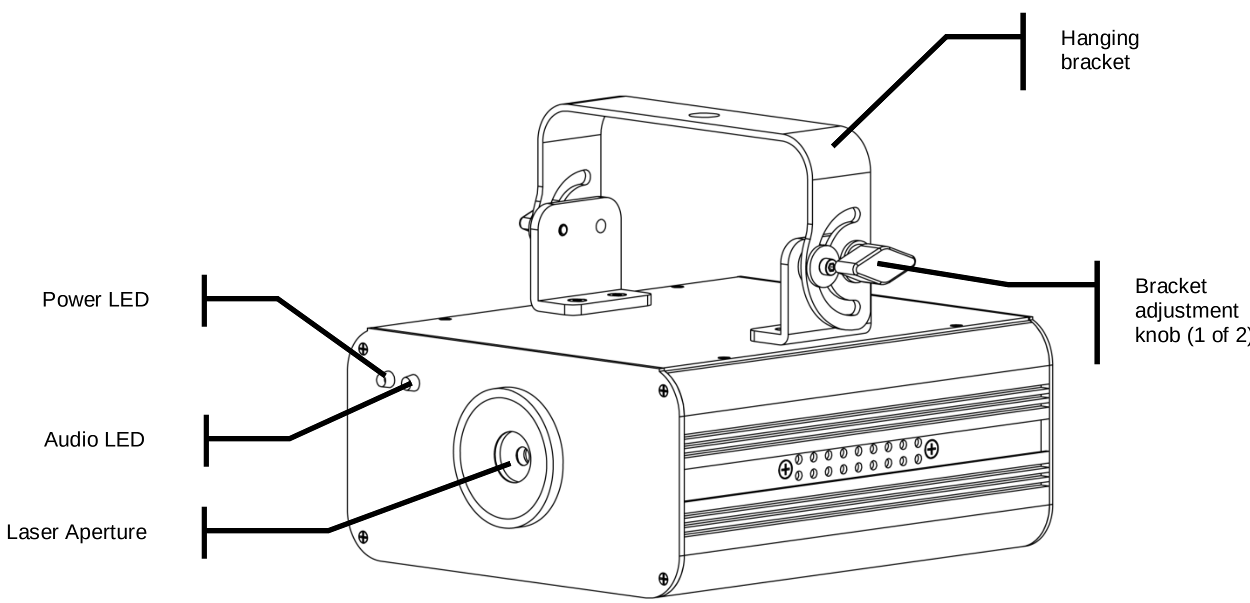
## Laser Compliance Statement

**This laser product complies with EN/IEC 60825-1 Ed 2, 2007-03, and US FDA/CDRH FLPPS via the terms of Laser Notice No. 50 dated June 24, 2007. This laser device is classified 3R. (Class 3R is the international equivalent of US Class IIIa). No maintenance is required to keep this product in compliance with laser performance standards.**

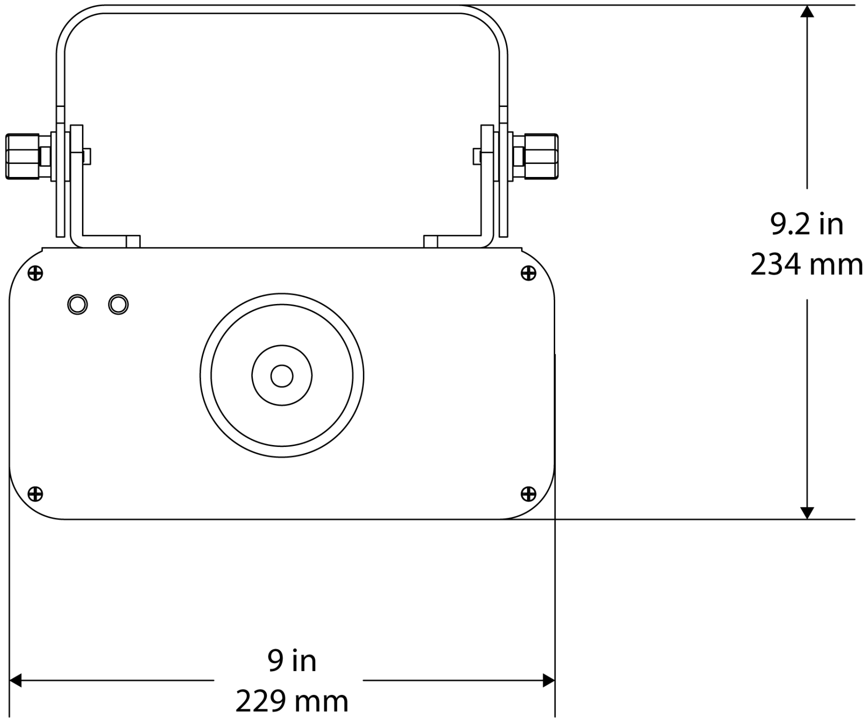
# 2. INTRODUCTION

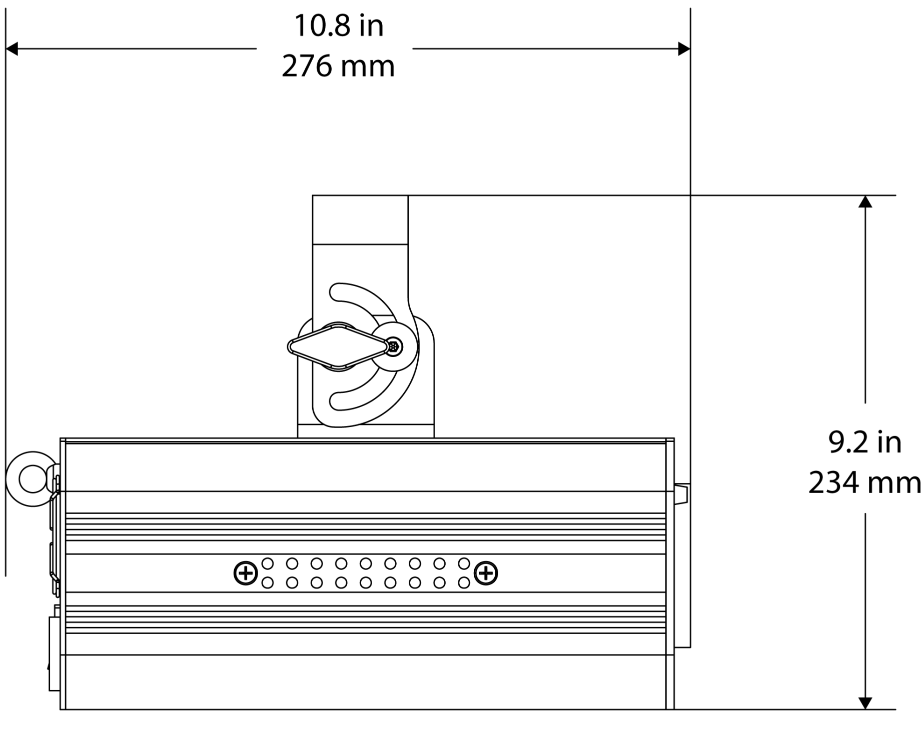
## Product Overview



## Product Dimensions



# 3. SETUP

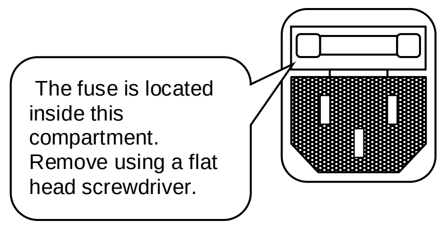
## AC Power

This fixture has an auto-switching power supply that can accommodate a wide range of input voltages. The only thing necessary to do before powering on the unit is to make sure the line voltage you are applying is within the range of accepted voltages. This fixture will accommodate 100~240 VAC, 50/60 Hz.

Always connect the product to a switched circuit. Never connect the product to a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used only as a 0 to 100% switch.

## Fuse Replacement

With a flat head screwdriver, wedge the fuse holder out of its housing. Remove the damaged fuse from its holder and replace with exact same type fuse. Insert the fuse holder back in its place and reconnect power.




Disconnect the power cord before replacing a fuse and always replace with the same type fuse.

## Mounting

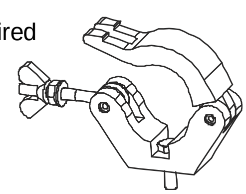
### Orientation

This fixture may be mounted in any safe position, provided there is adequate room for ventilation.

### Rigging

It is important never to obstruct the fan or vents pathway. Mount the fixture using, a suitable C or O type clamp. Adjust the angle of the fixture by loosening both knobs and tilting the fixture. After finding the desired position, retighten both knobs.

***Hanging Clamp***



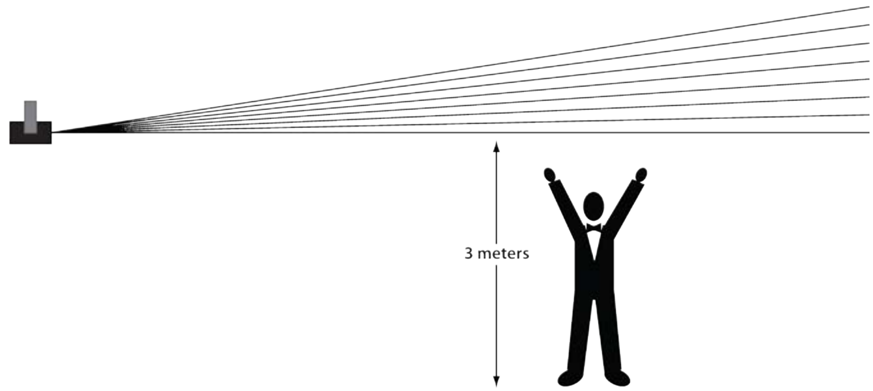
Note!
Clamp is sold separately.

- When selecting installation location, take into consideration access and routine maintenance.
- Safety cables must always be used.
- Never mount in places where the fixture will be exposed to rain, high humidity, extreme temperature changes or restricted ventilation.

## Proper Usage

This product is for overhead mounting only. For safety purposes, CHAUVET® recommends mounting your lighting effect products on steady elevated platforms or sturdy overhead supports using suitable hanging clamps. In all cases, you must use safety cables. You can obtain appropriate mounting hardware from your lighting vendor.

International laser safety regulations require that laser products must be operated in the fashion illustrated below, with a minimum of 3 meters (9.8 ft) of vertical separation between the floor and the lowest laser light vertically. Additionally, 3 meters of horizontal separation is required between laser light and audience or other public spaces.






**CAUTION - USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE**

# Data Linking

You will need a serial data link to run light shows of one or more fixtures using a DMX-512 controller or to run synchronized shows on two or more fixtures set to a master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

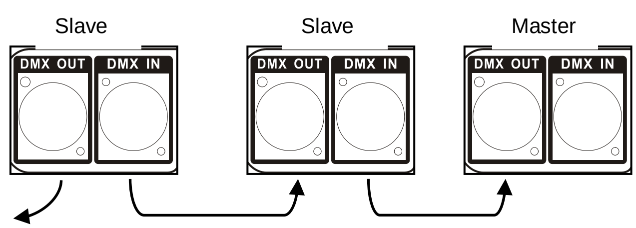
**Fixtures on a serial data link must be daisy chained in one single line. To comply with the EIA-485 standard no more than 32 fixtures should be connected on one data link. Connecting more than 32 fixtures on one serial data link without the use of a DMX optically-isolated splitter may result in deterioration of the digital DMX signal.**

- Maximum recommended serial data link distance: 500 m (1640 ft). Maximum recommended number of fixtures on a serial data link: 32

# Master/Slave Fixture Linking

1. Connect the (male) 3-pin connector side of the DMX cable to the output (female) 3-pin connector of the first fixture.
2. Connect the end of the cable coming from the first fixture which will have a (female) 3-pin connector to the input connector of the next fixture consisting of a (male) 3-pin connector. Then, proceed to connect from the output as stated above to the input of the following fixture and so on.

Often, the setup for Master-Slave and Standalone operation requires that the first fixture in the chain be initialized for this purpose via DIP switches. Secondarily, the fixtures that follow may also require a slave setting. Please consult the “Operating Instructions” section in this manual for complete instructions for this type of setup and configuration.

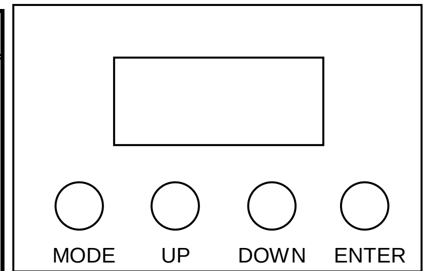


# 4. OPERATING INSTRUCTIONS

## Navigating the Control Panel

Access control panel functions using the four panel buttons located directly underneath the LED Display.

| Button | Function |
|---|---|
| **<MODE>** | Used to access the menu or to return to a previous menu option |
| **<UP>** | Scrolls through menu options in ascending order |
| **<DOWN>** | Scrolls through menu options in descending order |
| **<ENTER>** | Used to select and store the current menu or option within a menu |




The Control Panel LED Display shows the menu items you select from the menu map below. When a menu function is selected, the display will show immediately the first available option for the selected menu function. To select a menu item, press **<ENTER>**. Use **<UP>** and **<DOWN>** to navigate the menu map and menu options. Press **<ENTER>** to access the menu function currently displayed or to enable a menu option.  To return to the previous option or menu without changing the value, press **<MODE>**.

### Menu Functions

| MAIN FUNCTION | SELECTION | DESCRIPTION/VALUES | |
|---|---|---|---|
| **DMX mode** | `001` | `001 - 506` | DMX starting address assignment |
| **Stand-alone modes** | **ABF** | Automatic (Blue) fast | |
| | **ABS** | Automatic (Blue) slow | |
| | **AGF** | Automatic (Green) fast | |
| | **AGS** | Automatic (Green) slow | |
| | **GBF** | Green & Blue fast | |
| | **GBS** | Green & Blue slow | |
| | **SB** | Sound (Blue) | |
| | **SG** | Sound (Green) | |
| | **SGB** | Sound (Green & Blue) | |
| | **RDM** | Random | |
| **Slave** | **SLA** | Slave mode | |

## DMX Channel Summary

| CHANNEL | FUNCTION |
|---|---|
| **1** | Control mode |
| **2** | Color selection |
| **3** | Strobe |
| **4** | Rotation (motor 1) |
| **5** | Stutter (motor 1) |
| **6** | Rotation (motor 2) |
| **7** | Stutter (motor 2) |

# DMX Channel Values

| CHANNEL | VALUE | FUNCTION |
|---|---|---|
| 1 | | **Control Mode** |
| | 000 ⬄ 019 | DMX Mode |
| | 020 ⬄ 039 | Automatic fast (blue) |
| | 040 ⬄ 059 | Automatic slow (blue) |
| | 060 ⬄ 079 | Automatic fast (green) |
| | 080 ⬄ 099 | Automatic slow (green) |
| | 100 ⬄ 119 | Automatic fast (blue & green) |
| | 120 ⬄ 139 | Automatic slow (blue & green) |
| | 140 ⬄ 159 | Sound (blue) |
| | 160 ⬄ 179 | Sound (green) |
| | 180 ⬄ 199 | Sound (blue & green) |
| | 200 ⬄ 255 | Random |
| 2 | | **Color selection** |
| | 000 ⬄ 004 | Blackout |
| | 005 ⬄ 028 | Blue |
| | 029 ⬄ 056 | Green |
| | 057 ⬄ 084 | Blue & Green |
| | 085 ⬄ 112 | Green strobing |
| | 113 ⬄ 140 | Blue strobing |
| | 141 ⬄ 168 | Blue on & Green strobing |
| | 169 ⬄ 197 | Green on & Blue strobing |
| | 198 ⬄ 224 | Blue & Green strobing |
| | 225 ⬄ 255 | Blue & Green (alternate strobing) |
| 3 | | **Strobe** |
| | 000 ⬄ 004 | No function |
| | 005 ⬄ 254 | Strobe (slow ⬄ fast) |
| | 255 ⬄ 255 | Strobe to sound |
| 4 | | **Rotation (motor 1)** |
| | 000 ⬄ 004 | No rotation |
| | 005 ⬄ 127 | Clockwise rotation (slow ⬄ fast) |
| | 128 ⬄ 133 | Stop |
| | 134 ⬄ 255 | Counterclockwise rotation (slow ⬄ fast) |
| 5 | | **Stutter (motor 1)** |
| | 000 ⬄ 004 | No function |
| | 005 ⬄ 056 | Mode 1 (slow ⬄ fast) (affected by channel 4) |
| | 057 ⬄ 112 | Mode 2 (slow ⬄ fast) (affected by channel 4) |
| | 113 ⬄ 168 | Mode 3 (slow ⬄ fast) |
| | 167 ⬄ 255 | Mode 4 (slow ⬄ fast) |
| 6 | | **Rotation (motor 2)** |
| | 000 ⬄ 004 | No rotation |
| | 005 ⬄ 127 | Clockwise rotation (slow ⬄ fast) |
| | 128 ⬄ 133 | Stop |
| | 134 ⬄ 255 | Counterclockwise rotation (slow ⬄ fast) |
| 7 | | **Stutter (motor 2)** |
| | 000 ⬄ 004 | No function |
| | 005 ⬄ 056 | Mode 1 (slow ⬄ fast) (affected by channel 6) |
| | 057 ⬄ 112 | Mode 2 (slow ⬄ fast) (affected by channel 6) |
| | 113 ⬄ 168 | Mode 3 (slow ⬄ fast) |
| | 169 ⬄ 255 | Mode 4 (slow ⬄ fast) |

# Troubleshooting

| Symptom | Solution(s) | Applies to | | | |
|---|---|---|---|---|---|
| | | Lights | Foggers & Snow | Controllers | Dimmers & Chaser |
| Auto shut off | Check fan thermal switch reset | ✓ | | | |
| Beam is very dim or not bright | Clean optical system or replace lamp<br>Check 220/110 v switch for proper setting | ✓ | | | |
| Breaker/Fuse keeps blowing | Check total load placed on device | | | | ✓ |
| Device has no power | Check for power on Mains.<br>Check device's fuse. (internal and/or external) | ✓ | | ✓ | ✓ |
| Fixture is not responding | Check DMX Dip switch settings for correct addressing<br>Check DMX cables<br>Check polarity switch settings | ✓ | | | |
| Fixture is on but there is no movement to the audio | Make sure you have the correct audio mode on the control switches. If audio provided via ¼" jack, make sure a live audio signal exists<br>Adjust sound sensitivity knob | ✓ | | ✓ | ✓ |
| Lamps cuts off sporadically | Possible bad lamp or fixture is overheating.<br>Lamp may be at end of its life. | ✓ | | | |
| Light will not come on after power failure | Some discharge lamps require a cooling off period before the electronics in the fixture can kick start it again, wait 5 to 10 minutes before powering up | ✓ | | | |
| Loss of signal | Use only DMX cables<br>Install terminator<br>Note: Keep DMX cables separated from power cables or black lights. | ✓ | ✓ | ✓ | ✓ |
| Moves slow | Check 220/110v switch for proper setting | ✓ | | | |
| No flash | Re-install bulb, may have shifted in shipping | ✓ | | | |
| No laser output | Bounce mirror motor may have shifted during shipping, readjust | ✓ | | | |
| Stand alone mode | All Chauvet lighting fixtures featuring stand-alone functions do not require additional settings, simply power the fixture and it will automatically enter into this mode | ✓ | | | |

**If you still have a problem after trying the above solutions, contact CHAUVET Technical Support.**

# Returns

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Merchandise Authorization Number (RMA #). Products returned without an RMA # will be refused. Call CHAUVET and request RMA # prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. CHAUVET reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

**If you are given an RMA #, please include the following information on a piece of paper inside the box:**

- Your name
- Your address
- Your phone number
- The RMA #
- A brief description of the symptoms

# Contact Us


**World Headquarters**

CHAUVET®

***General Information***

| | |
|---|---|
| Address: | 5200 NW 108th Avenue<br>Sunrise, FL 33351 |
| Voice: | (954) 929-1115 |
| Fax: | (954) 929-5560 |
| Toll free: | (800) 762-1084 |

***Technical Support***

| | |
|---|---|
| Voice: | (954) 929-1115 (Press **4**) |
| Fax: | (954) 756-8015 |

***World Wide Web***: www.chauvetlighting.com

**United Kingdom & Ireland**

CHAUVET® Europe Ltd.

***General Information***

| | |
|---|---|
| Address: | Unit 1C<br>Brookhill Road<br>Pinxton, Nottingham, UK<br>NG16 6NT |
| Voice: | +44 (0)1773 511115 |
| Fax: | +44 (0)1773 511110 |
| Email: | uktech@chauvetlighting.com |

***World Wide Web***: www.chauvetlighting.co.uk

# Technical Specifications

**WEIGHT & DIMENSIONS**

| | |
|---|---|
| Length | 10.8 in (276 mm) |
| Width | 9 in (229 mm) |
| Height | 9.2 in (234 mm) |
| Weight | 5.9 lbs (2.7 kg) |

**POWER**

| | |
|---|---|
| Autoswitching | 100~240 VAC, 50/60 Hz |
| Fuse | T 1 A, 250 V |
| Power Consumption @ 120 V | 0.3 A max |
| Power Linking @ 120 V | 28 units |
| Power Consumption @ 230 V | 0.2 A max |
| Power Linking @ 230 V | 50 units |

**LASER**

| | |
|---|---|
| Green diode | 532 nm, 40 mW |
| Blue Diode | 450 nm, 120 mW |
| Laser Type | DPSS |

**RANGE**

| | |
|---|---|
| Coverage Angle | 99° |

**THERMAL**

| | |
|---|---|
| Maximum ambient temperature | 104° F (40° C) |
| Cooling | Fan cooled |

**CONTROL & PROGRAMMING**

| | |
|---|---|
| Data input | locking 3-pin XLR male socket |
| Data output | 3-pin XLR female socket |
| Data pin configuration | pin 1 shield, pin 2 (-), pin 3 (+) |
| Protocols | USITT DMX512-A |
| DMX Channels | 7 |

**ORDERING INFORMATION**

| | |
|---|---|
| Scorpion™ Storm FXGB | SCORPIONSTORMFXGB |

**WARRANTY INFORMATION**

| | |
|---|---|
| Warranty | 2-year limited warranty |

c MET® us

**UL 1573**
**CSA C22.2 No. 166**
**E113093**